

Claims

1. A cable comprising one or more electrical conductors or communications media or a core of two or more electrical conductors or communications media, each electrical conductor, communications medium, or core being surrounded by a layer comprising:

- (a) polyethylene; polypropylene; or mixtures thereof;
- (b) carbon nanotubes;
- (c) optionally, a conductive carbon black other than

carbon nanotubes; and

(d) optionally, a copolymer of acrylonitrile and butadiene wherein the acrylonitrile is present in an amount of about 30 to about 60 percent by weight based on the weight of the copolymer or a silicone rubber.

2. The cable defined in claim 1 wherein component (a) is a copolymer of ethylene and an unsaturated ester.

3. The cable defined in claim 2 wherein the copolymer is selected from the group consisting of vinyl esters, acrylic acid esters, and methacrylic acid esters wherein the ester is present in the copolymer in an amount of about 20 to about 55 percent by weight.

4. The cable defined in claim 1 wherein the layer is a semiconducting shield and component (b) is present in an amount of about 13 to about 100 parts by weight per 100 parts by weight of component (a).

5. The cable defined in claim 1 wherein the layer is a semiconducting shield and, for each 100 parts of component (a),

component (b) is present in an amount of about 1 to about 35 parts by weight ; component (c) is present in an amount of about 13 to about 100 parts by weight; and the weight ratio of component (b) to component (c) is about 0.1 :1 to about 10 :1.

6. The cable defined in claim 1 wherein the layer is an insulation layer and component (b) is present in an amount of about 0.01 to about 1 part by weight per 100 parts by weight of component (a).

7. A cable comprising one or more electrical conductors or communications media or a core of two or more electrical conductors or communications media, each electrical conductor, communications medium, or core being surrounded by a semiconducting shield layer comprising:

(a) a copolymer selected from the group consisting of vinyl esters, acrylic acid esters, and methacrylic acid esters wherein the ester is present in the copolymer in an amount of about 20 to about 55 percent by weight.

(b) carbon nanotubes;

(c) a conductive carbon black other than carbon nanotubes; and

(d) optionally, a copolymer of acrylonitrile and butadiene wherein the acrylonitrile is present in an amount of about 30 to about 60 percent by weight based on the weight of the copolymer or a silicone rubber

with the proviso that, for each 100 parts of component (a), component (b) is present in an amount of about 2 to about 20 parts by weight ; component (c) is present in an amount of about 15 to about 80

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parts by weight; and the weight ratio of component (b) to component (c) is about 0.2 :1 to about 8 :1.

8. A cable comprising one or more electrical conductors or communications media or a core of two or more electrical conductors or communications media, each electrical conductor, communications medium, or core being surrounded by a layer comprising:

- (a) polyethylene; polypropylene; or mixtures thereof; and
- (b) carbon nanotubes

with the proviso that, for each 100 parts of component (a), component (b) is present in an amount of about 0.05 to about 0.3 part by weight.

9. A composition comprising:

(a) a copolymer selected from the group consisting of vinyl esters, acrylic acid esters, and methacrylic acid esters wherein the ester is present in the copolymer in an amount of about 20 to about 55 percent by weight.

- (b) carbon nanotubes;
- (c) a conductive carbon black other than carbon nanotubes; and
- (d) optionally, a copolymer of acrylonitrile and butadiene wherein the acrylonitrile is present in an amount of about 30 to about 60 percent by weight based on the weight of the copolymer or a silicone rubber

with the proviso that, for each 100 parts of component (a), component (b) is present in an amount of about 1 to about 35 parts by weight; component (c) is present in an amount of about 13 to about 100 parts by weight; and the weight ratio of component (b) to component (c) is about 0.1 :1 to about 10 :1.

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10. A composition comprising a polymer selected from the group consisting of polyethylene; polypropylene; and mixtures thereof and 0.01 to 1 part by weight carbon nanotubes per 100 parts by weight of polymer.

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